

# **IVEM-Tandem 101 – User Orientation Course**

## **1. Course Objectives**

Welcome to the IVEM-Tandem 101 user orientation course for the IVEM-Tandem User Facility at Argonne National Laboratory's Nuclear Engineering Division. The objectives of this course are to:

- Provide users of IVEM-Tandem resources with location-specific safety and response information.
- Inform users about Argonne's policies, procedures, and resources applying to the IVEM-Tandem Facility users.
- Inform users of their obligations as users of an Argonne-managed DOE facility.

## **2. Introduction to the IVEM-Tandem Facility**

The IVEM-Tandem Facility is a user facility supported by the U.S. Department of Energy-Office of Nuclear Energy (DOE-NE) for in situ TEM studies of defect structures in materials under controlled ion irradiation and sample conditions. It is located in G-wing, Bldg. 212. More information about the IVEM-Tandem can be found on the website (<http://www.ne.anl.gov/ivem/>).

## **3. Emergency Information**

### **3.1 Reminder: In any emergency, dial 9-1-1 from any Argonne telephone (or 630-252-1911 from cell phones)**

This topic is thoroughly discussed in Argonne's *User Facility Orientation* (ESH100U).

### **3.2 Reporting Emergencies**

Without putting yourself at increased risk, you should follow the instruction of the person you speak to while reporting the concern and should stay reasonably near the area. You must notify your process custodian, laboratory supervisor, or scientific contact when you complete your 9-1-1 call. There are no penalties for dialing 9-1-1.

### **3.3 Medical Emergencies**

Dial 9-1-1 in cases of injury, illness, or medical emergency. The Argonne Fire Department will respond and offer transportation to an offsite medical facility. If a user who is not an Argonne employee enters the Argonne Medical Department with an injury, illness, or medical emergency, they will be given minimal treatment, and the medical staff will call the Fire Department for transportation to an offsite medical facility. Users who are not Argonne employees are expected to carry their own health insurance for treatment at offsite medical facilities.

### **3.4 Key safety people are:**

*The telephone numbers for the people listed below are posted near each telephone.*

<b>Name</b>	<b>Title</b>	<b>Function</b>
<b>Pete Baldo</b>	Serves as facility safety officer	Responsible for: <ul style="list-style-type: none"> <li>• Consulting with staff and users on technical safety issues.</li> </ul>
<b>Tim Keen</b>	Area Emergency Supervisor (AES), 212 Building manager	Responsible for emergency planning/activities in Building 212.

### 3.5 Audible Alarms

While in buildings 212, you might hear either of two audible emergency alarms. The table below describes these audible alarms and the actions you are to take in response to each. These are in addition to the site-wide alarms that are discussed in course ESH100U.

<b>Signal Type</b>	<b>Signal Sound</b>	<b>Cause</b>	<b>Action Required</b>
Local Evacuation	Loud steady bell accompanied by strobe lights and a public announcement to evacuate.	Fire, explosion, or other emergency.	Leave the building using routes to the north and west. Do not enter other wings of the building. Go to the Cafeteria (Building 213). Ensure that an IVEM-Tandem group member is aware that you have reported to the assembly point.
High Gamma Radiation Field	Loud steady horn in building 212 F-wing.	Loss of radiation shielding in the Alpha Gamma Hot Cell Facility.	If you hear the alarm, move away from the sound and assemble in building 213 Cafeteria.

### 3.6 Tornado Sheltering

When a tornado warning is announced by the site-wide public address (PA) system, you should use corridors and stairways – not the elevator – to make your way to the nearest designated tornado shelter. Shelters are on the first/ground floor.

Building 212, Room G166

The building drawings that follow depict the location of these shelters, identifying them using green highlighting. The actual locations have signs that say "Tornado Shelter."

In the event of a tornado, please reduce risks to others by ensuring Argonne knows where you are.

- If in building 212, find and stay with an IVEM-Tandem staff.

### 3.7 Emergency exercises

Tornado drills and evacuation drills are required annually. Tornado drills are conducted in the spring and evacuation drills are conducted in the fall. If you are present in the buildings at the time of the drills, you must participate. Your actions should mimic actual emergencies.

### 3.8 Hazards

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Each IVEM-Tandem laboratory is posted with a list of the hazards present in that particular room.

The range of hazards present in the building 212 is very broad. IVEM-Tandem users should minimize their potential exposure to hazards by confining themselves to the IVEM-Tandem areas, the main corridors, and general access areas. Do not enter non- IVEM-Tandem laboratories. Hazards in building 212 include:

#### Alpha Gamma Hot Cell Facility (AGHCF)

This complex, located in F-Wing of building 212, is a Category 3 Hazard Nuclear Facility and is governed by specific and strict DOE Orders and Federal Regulations. Do not enter this facility.

#### Controlled areas

Radiologically controlled areas include, but are not limited to, the AGHCF, E109, and DL114. The topic of controlled areas is covered in Argonne's *User Facility Orientation* (ESH100U).

#### Elevator gate

Building 212 has a freight elevator in E-wing. IVEM-Tandem users should not need to use the elevator, which has gate that will close automatically, from the top. Do not use the elevator unless you have first been shown how to use it and avoid hazards by an IVEM-Tandem staff member.

#### Cryogenic liquids

Cryogenic hazards include portable dewars of liquid nitrogen and liquid helium that may be found throughout the building. Also, there are large outside storage tanks for liquid nitrogen on the east side of the building.

#### Compressed gas cylinders

Compressed gas cylinders are located on the E-wing loading dock and throughout the building.

## **4. General User Information**

### **4.1 Laboratory Attire**

The following attire is not permitted in laboratory space:

- Shorts
- Sleeveless shirts
- Sandals or open-toed shoes

### **4.2 Training Requirements**

#### Required Core Training

The required training for the IVEM-Tandem consists of the following courses:

- IVEM-Tandem 101, IVEM-Tandem Users Orientation (this course);
- ESH100U, ANL User Facility Orientation;
- ESH223U, Cyber Security Program Training (for non-Argonne employees), or ESH223 (for Argonne employees);

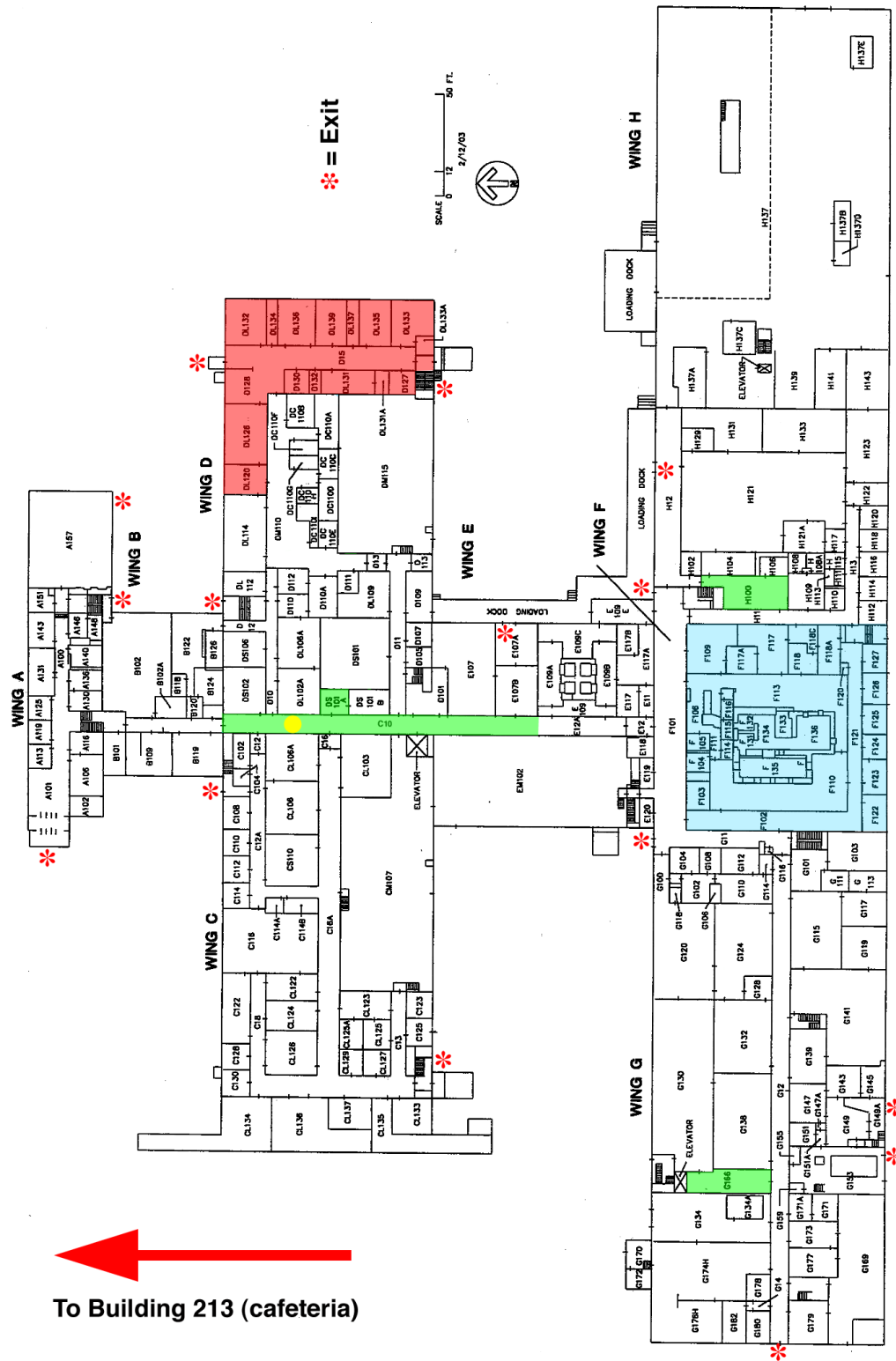
## **5. Specimen Preparation Facility**

The IVEM-Tandem maintains electropolishing specimen preparation capability that are available to all users. While individuals are generally expected to carry out their own specimen preparation, IVEM-Tandem group members are available for consultation (expertise and guidance only).

## **6. Floor Plans of Building 212**

This section contains the ground floor of building 212.

## Building 212 ground floor plan

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The official version of this training course can be found at, <http://www.ne.anl.gov/ivem/>